

09/5096

LAW OFFICES
SUGHRUE, MION, ZINN, MACPEAK & SEAS, PLLC
 2100 PENNSYLVANIA AVENUE, N.W.
 WASHINGTON, DC 20037-3213
 TELEPHONE (202) 293-7060
 FACSIMILE (202) 293-7860
 www.sughrue.com

March 30, 2000

BOX PCT

Assistant Commissioner for Patents
 Washington, D.C. 20231

PCT/PCT/DK99/00425
 -filed July 29, 1999

Re: Application of Hans Berg ANDREASEN, Lars CHRISTENSEN
 A PROCESS FOR PRODUCING AN IRON-DEXTRAN COMPOUND, IRON-DEXTRAN
 COMPOUND, IRON-DEXTRAN COMPOUND PRODUCED ACCORDING TO SAID
 PROCESS, PHARMACEUTICAL COMPOSITION FOR PROPHYLAXIS OR TREATME
 OF IRON-DEFICIENCY AND USE OF SAID COMPOUND FOR THE PREPARATION C
 PARENTERALLY ADMINSTRABLE PHARMACEUTICAL COMPOSITION
 Our Ref: Q58461

Dear Sir:

The following documents and fees are submitted herewith in connection with the above application
 the purpose of entering the National stage under 35 U.S.C. § 371 and in accordance with Chapter II of the
 Patent Cooperation Treaty:

- ☒ an executed Declaration and Power of Attorney.
- ☒ an English translation of the International Application.
- ☐ 0 sheet(s) of drawings.
- ☒ an English translation of Article 19 claim amendments.
- ☐ an English translation of Article 34 amendments (annexes to the IPER).
- ☒ an executed Assignment and PTO 1595 form.
- ☐ a Form PTO-1449 listing the ISR references, and a complete copy of each reference.
- ☐ a Preliminary Amendment

It is assumed that copies of the International Application, the International Search Report, the
 International Preliminary Examination Report, and any Articles 19 and 34 amendments as required by § 37
 will be supplied directly by the International Bureau, but if further copies are needed, the undersigned can
 provide them upon request.

0950961 037400

The Government filing fee is calculated as follows (Small Entity fees apply):


Total claims	<u>16</u>	-	20	=	_____	x	\$9.00	=	<u>\$0.00</u>
Independent claims	<u>2</u>	-	3	=	_____	x	\$39.00	=	<u>\$0.00</u>
Base Fee									<u>\$420.00</u>

TOTAL FILING FEE	<u>\$420.00</u>
Recordation of Assignment	<u>\$ 40.00</u>
TOTAL FEE	<u>\$460.00</u>

Checks for the statutory filing fee of \$420.00 and Assignment recordation fee of \$40.00 are attached. You are also directed and authorized to charge or credit any difference or overpayment to said Account. The Commissioner is hereby authorized to charge any fees under 37 C.F.R. §§ 1.16, 1.17 and 1.492 which may be required during the entire pendency of the application to Deposit Account No. 19-4880. A duplicate copy of this transmittal letter is attached.

Priority is claimed from November 20, 1998 based on DK Application No. PA199801526.

Respectfully submitted,


 Brian W. Hannon
 Registration No. 32,778

SUGHRUE, MION, ZINN,
 MACPEAK & SEAS, PLLC
 2100 Pennsylvania Avenue, N.W.
 Washington, D.C. 20037-3213
 Telephone: (202) 293-7060
 Facsimile: (202) 293-7860

Date: March 30, 2000

PTO/PCT Rec'd 30 MAR 2000

OPTICAL FLOWMETER

The invention relates to a method as stated in the preamble of claim 1, an electronic optical flowmeter as stated in the preamble of claim 3, and an electronic flowmeter as stated in the preamble of claim 10.

There are different methods for obtaining reliable and reproducible monitoring of precipitation. One example of these is given from US patent no. 4,520,667, in which a drop collector guides precipitation to a monitoring unit, as the drop collector guides the precipitation to electrodes, which short-circuit and deliver a monitoring pulse for each of the incoming drops. The number of registered drops is thereafter converted to an evaluation signal representing the precipitation in mm, inches or corresponding units.

This technique, however, has shown to be less reliable in
20 geographical areas, where the precipitation is quite
clean, as the drops not always are capable of short-
circuiting the electrodes.

US patent no. 4,314,484 discloses a rain-gauge in which
25 electrodes are substituted with an optical registration
of drops from a drop collector is known. Optical
solutions, however, are problematic in many aspects, as
these solutions are quite current consuming. This is in
particular a problem, when using a battery as a power
30 source

It is the object of the invention to provide a method and an apparatus, which deals with these above-mentioned drawbacks of the prior art.

Background of the invention

When, as stated in claim 1, the optical transmitting means is established to modulation of the light emitted from the optical transmitting means, an effective and reproducible flow measurement having minimal power consumption has been achieved. In should in connection with fluid output be understood, that the water may be guided from the output to a reservoir or directly out of the measuring apparatus.

When, as stated in claim 2, the optical signals emitted from the optical transmitting means comprises of pulses, an particular advantageous embodiment of the invention has been achieved, as the power consumption of optical transmitting means may be further reduced.

When, as stated in claim 3, the optical transmitting means are adapted to emit modulated light in dependence of a controlling electrical signal, a possibility of obtaining an accurate flower measurement and a low power consumption has been achieved.

Thus, according to the invention, it is possible to achieve sufficient optical information at the optical receiving means when the light is modulated.

The modulation of the optical transmitting means should, within the scope of the invention, be adapted to the current applications. The modulation should in every circumstances be so that every drop is illuminated at least one time when it passes the optical path between the transmitting and receiving means. The modulation should thus be adapted to the shape of the drop as well

as the drop size and the relation between minimal and maximal drop flow.

5 The modulation frequency may also, depending on the utilised recognition procedures, be adapted such that each drop is illumination a number of times when passing the optical path between the transmitting and receiving means.

10 Another adjustment that may be made within the scope of the invention is an adjustment of the modulation width, i.e. the duration of time the optical transmitting means emits a light wave a light impulse in the direction of the optical receiving means.

15 The shape of the curve and an eventually variation of the modulated light may also be adapted the current applications within the scope of the invention.

20 Further to the already mentioned advantages of claim 1, it should be mentioned that the unique combination of measuring of rain established in humid and non-encapsulated environments, need for a battery power supply and consequently a need for a low power
25 consumption and a need for accurate and reproducible measuring is fully met and satisfied by the invention.

When, as stated in claim 4, the optical transmitting means are established to emit optical pulse signals, a
30 particular advantageous embodiment of the invention has been achieved, as a periodic activation of the optical transmitting means may be established without the possibility of missing any drops, when carefully adjusting the electronically and optically system.
35

It should be noted that the pulses may have several shapes within the scope of the invention. It is moreover evident, that the number of necessary light impulses is particular dependent on the current application, as the number of pulses per time unit should be adjusted in such a way, that the light impulses ensures that no drop will be disregarded because no pulse were present when the drop passed the optical path between the optical transmitting and receiving means.

The duration of the pulses may moreover be adapted suitably from application to application. The light pulse may e.g. be sustained until the drop has passed the optical path completely, thus resulting in a complete illumination during passage of the optical path. It would consequently be possible detecting the back-edge unambiguously of the drop when the front edge of the drop has entered the optical path.

The frequency and the duration of the pulses may likewise be adjusted. Another example of the "trapping" of a drop in the drop counter may be implemented by increasing the frequency of the impulses when the threshold value has been exceeded.

When, as stated in claim 5, the optical transmitting means are established to emit optical pulse signals having a constant period and a constant duty cycle, said duty cycle being the duration of the time the optical transmitting means emits light over the total period time, a particular simple and easy implementable embodiment of the invention has been achieved, as timer interrupts etc. may be performed by relatively simple and clear routines.

In battery applications the invention provides a further significantly increasing of battery life time combined with a reproducible measurement. Within the scope of the invention, it is possible to adjust the period time and/or the "SET"-duration time. This adjusting may be static or dynamically as well.

In many relations it will also be attractive to let the measuring unit convert the counts of detected drops to a measure of rain over a certain interval of time, which subsequently may be shown at a monitoring unit e.g. a display.

According to a further advantageous embodiment the measuring unit may export the count measurement to a memory unit, as the measurement is moreover connected to a time of registration. Consequently the time of reading the unit becomes less critical, in the sense that all data can be collected and evaluated subsequently.

When, as stated in claim 6, the duty cycle of the pulse train is approximately 1%, and that the period time of the pulse train is approximately 32 ms, a further advantageous embodiment of the invention has been achieved, which under consideration of the electrical and mechanical features of an application, may provide a particular low power consumption combined with a very accurate registration.

When, as stated in claim 7, the rain gauge comprises a signal interface connected with the calculation means for transferring data to an external unit, said data comprising representations of the measured drop flow or processed data thereof, an advantageous embodiment of the invention has been achieved, which e.g. may be utilised

in measuring units of a more professional character, as data during a certain time interval, e.g. a week, may be transferred via a memory dump to an external calculation unit, e.g. a laptop computer via the data interface.

5

This data interface may e.g. be wireless or be constituted by an ordinary RS-232 interface.

10 If a periodic readout of the above mentioned type is performed, it would typically be advantageous saving data with a reference to a time, such that the measuring of the rain may be correlated to certain specific time intervals.

15 When, as stated in claim 8, the calculation means converts the number of registered drops to a measure representation, which successively is displayed on a display unit, an advantageous and user-friendly application has been achieved.

20

When, as stated in claim 9, the distance between the optical transmitting means and the optical receiving means are approximately 10 mm when the drop size is approximately 5/100 ml, an advantageous embodiment of the
25 invention has been achieved.

It is possible to vary the dimensioning in dependence of the desired results and mutual physical relationships between the drop size, the dynamical drop shape, the
30 shadowing with respect to the optical system and further optical and mechanical aspects.

It should be understood that this dimensioning likewise may be supplemented with an adjustment of the means
35 converting the rain to a drop flow of uniform drops. This

adjustment may e.g. be implemented by adjustment of the drop nozzle.

- 5 If a powerful light source or sensitive receiving means is utilised, the distance between these may e.g. be increased, if desired.

- 10 When, as stated in claim 10, the means for collecting rainwater and the coupled means for converting the collected rainwater to drops is coupled to, or comprises, a filter for reduction of the drop flow fed into the drop path or the drop paths, a particular embodiment of the invention has been achieved, as it may be possible
- 15 establishing a suitable slow drop flow, such that no drops will be disregarded as a result of that the drops passes the path without being illuminated during the periodic interruptions of the light
- 20 It should be understood that the design of this "max-flow" is not critical, as the functionality, i.e. a well-defined drop flow interval filter may be implemented in many designs.
- 25 When, as stated in claim 11, the filter for reduction of the drop flow comprises a sponge, a particular advantageous embodiment of the invention has been achieved, as the sponge e.g. may be inserted in the lower part of a collection funnel, and at the same time
- 30 providing a maximal guidance of drops to a drop nozzle arranged in the very bottom of the collection funnel.

The sponge will in this case reduce the drop flow and moreover ensure that no water will adhere in the bottom

of the funnel as a result of surface tensions, but rather be fed into the drop nozzle.

When, as stated in claim 12, in that the optical
5 transmitting means are adapted to emit modulated light in
dependence of a controlling electrical signal, a further
advantageous embodiment of the invention has been
achieved. Generically, the invention may be utilised for
numerous different types of fluid flow, volume or weight
10 measuring

Thus, according to the invention it is possible to
establish very accurate weight or volume estimates. This
feature has the consequence that the counting technique
15 may be utilised for automatically regulated dosing.

Numerous software-based algorithms may be established for
the complete recognition of a drop, when the threshold
value is exceeded. Whether these algorithms determines
20 the rest of the drop progress by means of a recognition
based system by detection of the rear edge, completely
detection by registration of the drop front edge, or by
means of many other for the purpose convenient
applications is to a great extent a choice related to the
25 specific system parameters such as drop shape and
specifications of the used electronic components.

When, as stated in claim 13, the optical transmitting
means are established to emit optical pulse signals, a
30 particular advantageous embodiment has been achieved, as
a periodic activation of the optically transmitting
means, when dimensioning the electrical and optical
system suitably, may be established in such a way that no
drops are disregarded.

35

The figures

An example of an embodiment of the invention will be described below with reference to the drawings, in which

- 5 fig. 1 shows a preferred embodiment of the invention,
and
fig. 2 illustrates the light pulses utilised in a
flowmeter according to the invention.

10 **Detailed description**

Fig. 1 shows the principles of a rain gauge according to the invention comprising a drop collector 1 having a output nozzle 2 in the bottom.

- 15 An output filter 3 consisting of a sponge is inserted relative to the output nozzle of the drop collector. Suitable dimensioning and positioning of the sponge relative to the output nozzle ensures that the drop flow from the output nozzle 2 consists of drops 4 which,
20 according to the embodiment, does not exceed five drops per second.

- It should be understood that the maximum drop flow depends upon the chosen dimensioning of the mechanical
25 and electrical system.

- When utilising the filter 3 one achieved advantage is that the fluid are conducted to the bottom of the drop collector without "adhering" in the input of the discharge duct in the bottom of the funnel due to surface tensions. The filter 3 will suck the fluid into the nozzle, and the capillary effect will ensure the drops are guided further.
30

Moreover an important advantage is obtained as it may be possible to reduce the demands of the dimensioning of the optical system, as a relatively slow drop flow will reduce the risk of overlooking drops passing the optical path without being illuminated.

Thus, if the drop nozzle has a well-defined flow interval, and in particular an upper limit, a possibility of avoiding a constant illumination of the passing drop flow is avoided.

The rain gauge further comprises a light emitter 5, such as e.g. a LED 5. The light emitter is connected to a control unit 7.

The light emitter emits a light beam 8 directed to a corresponding light receiver 9. The light receiver is connected to a control unit 7 via an electrical connection 11.

The light beam emitted from the light emitter 5 will, according to the invention, be pulse shaped in the sense, the light beam is only turned on in periods.

If a drop 4 passes the optical path between the light emitter 5 and the light receiver 9 it will cause an interruption or a change of the light transmission.

The controlling unit 7, which subsequently will increment a drop counting register, will register the change. Eventually, it may be advantageous interrupting the incrementing of the drop counting register in a predefined period after the detection of that a drop has modulated the light path 8, such that further false registrations on the same raindrop is avoided.

In the shown embodiment the light will be turned on for approximately 0.35 ms and turned off for approximately 32 ms, i.e. a duty cycle on approximately 1%.

5

Depending on the chosen electrical components, the mechanical location of transmitting and receiving means and the shape of the drops, it is possible to obtain even smaller duty cycles.

10

The achieved reduction of illumination time according to the invention, and the resulting reduction of power consumption is surprisingly advantageous in connection with flow measuring. The, the significant reduced power consumption combined with a reliable measuring should seen in the perspective that flow measuring is a continuously measuring going on for years.

15

The dimensioning of the light emitter and the performance of the light emitter should be adapted to the drop flow, such that the frequency of the light impulses sufficiently ensures that no drops will be overlooked.

20

Fig. 2 shows an illustration of how the pulse shape of the light emitter 5 is according to an embodiment of the invention. The pulse peaks 20 and 21 determines the time duration when the light emitter is activated.

25

The structure of the shown activation of the LED has form of a pulse train having a constant period and a constant duration of the activation. It should nevertheless be noted that the shape of activation is not crucial. It is therefore within the scope of the invention possible to change the period or the time duration of activation dynamically as a function of currently applicable

30

35

criteria's, as e.g. the state of the system can form the basis of the mentioned changes. As an example the system could be adapted to transmit bursts of pulse trains, if no drop flow has been detected over a given period of time and then return to a constant pulse train at the first indication of a fluid flow.

5 time and then return to a constant pulse train at the first indication of a fluid flow.

CLAIMS

- 5 1. Optical method of measuring precipitation,

said precipitation being collected by means for
collecting precipitation and guided in the shape of drops
to a fluid output via a measuring zone,

10

each drop in the measuring zone passing at least one
optical path between optical transmitting means and
optical receiving means,

- 15 each optical receiving means outputting an electrical
signal to a calculation unit in dependence of the
intensity of the light signal received at the optical
receiving means,

- 20 said calculation unit being established to registration
of the number of passing drops in said at least one
optical path in dependence of said electrical signal,

- characterised in that the optical transmitting means (5)
25 is established to modulation of the light emitted from
the optical transmitting means.

2. Method according to claim 1, characterised in that the
optical signals emitted from the optical transmitting
30 means (5) comprises of pulses (20, 21).

3. Electronically optical rain gauge comprising means for
collecting rainwater

and means for converting the said collected rainwater from said means into drops of certain predefined dimensions in at least one well-defined drop path,

5 at least one measuring zone arranged relatively to said
converting means comprising optical transmitting means
and optical receiving means defining at least one mutual
optical path from the optical transmitting means to the
optical receiving means,

10 said optical transmitting means being arranged for
emitting light in dependence of a controlling electrical
signal,

15 said optical receiving means being arranged to establish
an electrical signal in dependence of the light received
by said optical receiving means

said measuring zone being arranged in such a way that at
20 least one of the said at least one drop paths passes at
least one of the mutual optical paths,

said optical receiving means being electrical connected to calculation means, said calculation means being adapted to register the number of said passing drops in the said optical path in dependence of the said optical signal,

characterised in that the optical transmitting means are
30 adapted to emit modulated light in dependence of a
controlling electrical signal.

4. Electronically optical rain gauge according to claim 3, characterised in that the optical transmitting means

(5) are established to emit optical pulse signals (20, 21).

5 5. Electronically optical rain gauge according to claim 3
or 4, characterised in that the optical transmitting
means (5) are established to emit optical pulse signals
having a constant period and a constant duty cycle, said
duty cycle being the duration of the time the optical
transmitting means emits light over the total period
10 time.

6. Electronically optical rain gauge according to claims
3 - 5, characterised in that the duty cycle of the pulse
train is approximately 1%, and that the period time of
15 the pulse train is approximately 32 ms.

7. Electronically optical rain gauge according to claims
3 - 6, characterised in that the rain gauge comprises a
signal interface connected with the calculation means (7)
20 for transferring data to an external unit, said data
comprising representations of the measured drop flow or
processed data thereof.

8. Electronically optical rain gauge according to claims
25 3 - 7, characterised in that the calculation means
converts the number of registered drops to a measure
representation, which successively is displayed on a
display unit.

30 9. Electronically optical rain gauge according to claim 3
- 8, characterised in that the distance between the
optical transmitting means (5) and the optical receiving
means (9) are approximately 10 mm when the drop size is
approximately 5/100 ml.

35

10. Electronically optical rain gauge according to claim
3 - 9, characterised in that the means for collecting
rainwater (1) and the coupled means for converting the
collected rainwater to drops (2) is coupled to, or
5 comprises, a filter for reduction of the drop flow fed
into the drop path or the drop paths.

11. Electronically optical rain gauge according to claim
3 - 10, characterised in that the filter for reduction of
10 the drop flow comprises a sponge (3).

12. Electronically flowmeter comprising

means for converting a transparent fluid into drops of a
15 predefined dimension, said drops being transmitted from
the means in a well-defined drop path to a measuring zone

said measuring zone comprising optical transmitting means
and optical receiving means defining at least one mutual
20 optical path from the optical transmitting means to the
optical receiving means,

said optical transmitting means being arranged for
emitting light in dependence of a controlling electrical
25 signal,

said optical receiving means being arranged to establish
an electrical signal in dependence of the light received
by said optical receiving means

30 said measuring zone being arranged in such a way that at
least one of the said at least one drop path passes at
least one of the mutual optical paths,

said optical receiving means being electrical connected to calculation means, said calculation means being adapted to register the number of said passing drops in the said optical path in dependence of the said optical signal,

characterised in that the optical transmitting means (5) are adapted to emit modulated light in dependence of a controlling electrical signal.

13. Electronically optical flowmeter according to claim 12, characterised in that the optical transmitting means (5) are established to emit optical pulse signals (20, 21).

1/1

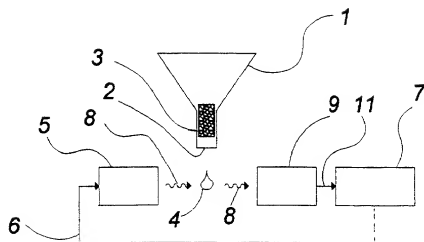


Fig.1

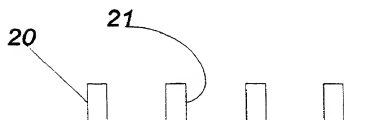


Fig.2

DECLARATION AND POWER OF ATTORNEY

As a below named inventor, I hereby declare that my residence, post office address and citizenship are as stated below next to my name: that I verily believe I am the original, first and sole inventor (if only one name is listed below) or a joint inventor (if plural names are listed below) of the subject matter claimed and for which a patent is sought in the application entitled:

"A PROCESS FOR PRODUCING AN IRON-DEXTRAN COMPOUND, IRON-DEXTRAN COMPOUND PRODUCED ACCORDING TO SAID PROCESS, PHARMACEUTICAL COMPOSITION FOR PROPHYLAXIS OR TREATMENT OF IRON-DEFICIENCY AND USE OF SAID COMPOUND FOR THE PREPARATION OF A PARENTERALLY ADMINSTRABLE PHARMACEUTICAL COMPOSITION"

which application is:

☐ the attached application
(for original application)

☒ application Serial No. PCT/DK99/00425

filed 29.07.99

06.01.00

, and amended on

(for declaration not accompanying application)

that I have reviewed and understand the contents of the specification of the above-identified application, including the claims, as amended by any amendment referred to above; that I acknowledge my duty to disclose information of which I am aware and which is material to the examination of this application under 37 C.F.R. 1.56; and that I hereby claim foreign priority benefits under Title 35, United States Code §119, §172 or §365 of any foreign application(s) for patent or inventor's certificate listed below and have also identified on said list any foreign application for patent or inventor's certificate on this invention having a filing date before that of the application on which priority is claimed:

Application Number	Country	Filing Date	Priority Claimed (yes or no)
1526/98	Denmark	20. 11. 1998	yes

I hereby claim the benefit of Title 35, United States Code §120 of any United States application(s) listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in a listed prior United States application in the manner provided by the first paragraph of Title 35, United States Code, §112, I acknowledge my duty to disclose any material information under 37 C.F.R. 1.56 which occurred between the filing date of the prior application and the national or PCT international filing date of this application:

Application Serial No.	Filing Date	Status (patented, pending, abandoned)
------------------------	-------------	--

I hereby appoint John H. Mion, Reg. No. 18,879; Donald E. Zinn, Reg. No. 19,046; Thomas J. Macpeak, Reg. No. 19,292; Robert J. Seas, Jr., Reg. No. 21,092; Darryl Mexic, Reg. No. 23,063; Robert V. Sloan, Reg. No. 22,775; Peter D. Olexy, Reg. No. 24,513; J. Frank Osha, Reg. No. 24,625; Waddell A. Biggart, Reg. No. 24,861; Robert G. McMorrow, Reg. No. 19,093; Louis Gubinsky, Reg. No. 24,835; Neil B. Siegel, Reg. No. 25,200; David J. Cushing, Reg. No. 28,703; John R. Inge, Reg. No. 26,916; Joseph J. Ruch, Jr., Reg. No. 26,577; Sheldon I. Landsman, Reg. No. 25,430; Richard C. Turner, Reg. No. 29,710; Howard L. Bernstein, Reg. No. 25,665; Alan J. Kasper, Reg. No. 25,426; Kenneth J. Burchfiel, Reg. No. 31,333; Gordon Kit, Reg. No. 30,764; Susan J. Mack, Reg. No. 30,951; Frank L. Bernstein, Reg. No. 31,484; Mark Boland, Reg. No. 32,127; William H. Mandir, Reg. No. 32,156; Scott M. Daniels, Reg. No. 32,562; and Brian W. Hannon, Reg. No. 32,778, my attorneys to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith, and request that all correspondence about the application be addressed to SUGHRUE, MION, ZINN, MACPEAK & SEAS, 2100 Pennsylvania Avenue, N.W., Washington, D.C. 20037.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

100

Date	First Inventor	Signature	Post Office Address	Citizenship
J. J. 2000	Hans	Berg	ANDREASEN	
	First Name	Middle Initial	Last Name	
Residence	VIBY S.M.LAND, DK			
	Signature			
	Post Office Address			
	Vangvej 2, DK-4130 VIBY S.M.LAND, Denmark			
	Citizenship			
	Danish			

200

Date	Second Inventor	Signature	Post Office Address	Citizenship
J. J. 2000	Lars	CHRISTENSEN		
	First Name	Middle Initial	Last Name	
Residence	ROSKILDE, DK			
	Signature			
	Post Office Address			
	Frederiksborgvej 27, DK-4000 ROSKILDE, Denmark			
	Citizenship			
	Danish			

Serial or Patent No.: PCT/DK99/00425 0003 File No. _____
Filing or Issue Date: _____
Applicant or Patentee: _____
For: _____

VERIFIED STATEMENT (DECLARATION) CLAIMING SMALL ENTITY STATUS
37 CFR 1.9(f) and 1.27(b) - INDEPENDENT INVENTOR

As a below named inventor, I hereby declare that I qualify as an independent inventor as defined in 37 CFR 1.9(c) for purposes of paying reduced fees under 35 USC §41(a) and (b) to the U.S. Patent and Trademark Office with regard to the invention entitled "A PROCESS FOR PRODUCING AN IRON-DEXTRAN COMPOUND, IRON-DEXTRAN COMPOUND PRODUCED ACCORDING TO SAID PROCESS, PHARMACEUTICAL" described in U.S. Patent Application filed herewith
☒ U.S. Patent Application Serial No. PCT/DK99/00425 filed 29.07.99
☐ U.S. Patent No. _____ issued _____

I have not assigned, granted, conveyed or licensed and am under no obligation under contract or law to assign, grant, convey or license, any rights in the invention to any person who could not be classified as an independent inventor under 37 CFR 1.9(c) if that person had made the invention, or to any concern which would not qualify as a small business concern under 37 CFR 1.9(d) or a nonprofit organization under 37 CFR 1.9(e).

Each person, concern or organization to which I have assigned, granted, conveyed or licensed or am under an obligation under contract or law to assign, grant, convey or license any rights in the invention is listed below:

- ☐ no such person, concern or organization
☒ persons, concerns or organizations listed below*

*NOTE: Separate verified statements are required from each named person, concern or organization having rights to the invention averring to their status as small entities.
37 CFR 1.27

FULL NAME: PHARMACOSMOS HOLDING A/S
ADDRESS: Frederiksborgvej 27, DK-4000 ROSKILDE, Denmark
NAME: ☐ INDIVIDUAL ☒ SMALL BUSINESS CONCERN ☐ NONPROFIT ORGANIZATION
ADDRESS: ☐ INDIVIDUAL ☐ SMALL BUSINESS CONCERN ☐ NONPROFIT ORGANIZATION

I acknowledge the duty to file in this patent application or patent, notification of any change of status resulting in loss of entitlement to small entity status prior to paying, or at the time of paying, the earliest of the issue fee or any maintenance fee due after the date on which status as a small entity is no longer appropriate. 37 CFR 1.29(b).

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 USC §1001, and that such willful false statements may jeopardize the validity of the patent application, any patent issuing thereon, or any patent to which this verified statement is directed.

Hans Berg ANDREASEN

Name of Inventor

Signature of Inventor
J. J. 2000

Date

Lars CHRISTENSEN

Name of Inventor

Signature of Inventor
3/3 - 2000

Date

Name of Inventor

Signature of Inventor

Date

Serial or Patent No.: PCT/DK99/00425

File No. _____

Filing or Issue Date: _____

Applicant or Patentee: _____

For: _____

VERIFIED STATEMENT (DECLARATION) CLAIMING SMALL ENTITY STATUS
37 CFR 1.9(f) and 1.27(c) - SMALL BUSINESS CONCERN

I hereby declare that with regard to the small business concern identified below I am
[] the owner of the small business concern
[X] an official of the small business concern empowered to act on behalf of same
NAME OF CONCERN: PHARMACOSMOS HOLDING A/S
ADDRESS OF CONCERN: Frederiksborgvej 27, DK-4000 ROSKILDE, Denmark

I hereby declare that the above identified small business concern qualifies as a small business concern as defined in 13 CFR 1.21.3-18, and reproduced in 37 CFR 1.9(d), for purposes of paying reduced fees under 35 USC §41(a) and (b) in that the number of employees of the concern, including those of its affiliates, does not exceed 500 persons. For purposes of this statement (1) the number of employees of the business concern is the average over the previous fiscal year of the concern of the persons employed on a full-time, part-time or temporary basis during each of the pay periods of the fiscal year, and (2) concerns the affiliates of each other when either, directly or indirectly, one concern controls or has the power to control the other, or a third party or parties controls or has the power to control both.

I hereby declare that rights under contract or law have been conveyed to and remain with the small business concern identified above with regard to the invention entitled
"A-PROCESS FOR PRODUCING AN IRON-DEXTRAN COMPOUND, IRON-DEXTRAN COMPOUND PRODUCED" by inventor(s)
Lars Berg ANDERSEN and Lars CHRISTENSEN described in

[] U.S. Patent Application filed herewith
[X] U.S. Patent Application Serial No PCT/DK99/00425 filed 29.07.99
[] U.S. Patent No. _____ issued _____

If the rights held by the above identified small business concern are not exclusive, each individual, concern or organization having the rights to the invention is listed below* and no rights to the invention are held by any person, other than the inventor, who could not qualify as a small business concern under 37 CFR 1.9(c) or by any concern which would not qualify as a small business concern under 37 CFR 1.9(d) or a non-profit organization under 37 CFR 1.9(e). *NOTE: Separate verified statements are required from each named person, concern or organization having rights to the invention averring to their status as small entities. 37 CFR 1.27.

NAME: _____
ADDRESS: _____
[] INDIVIDUAL [] SMALL BUSINESS CONCERN [] NON-PROFIT ORGANIZATION
NAME: _____
ADDRESS: _____
[] INDIVIDUAL [] SMALL BUSINESS CONCERN [] NON-PROFIT ORGANIZATION

I acknowledge the duty to file in this patent application or patent, notification of any change of status resulting in loss of entitlement to small entity status prior to paying, or at the time of paying, the earliest of the issue fee or any maintenance fee due after the date on which status as a small entity is no longer appropriate. 37 CFR 1.29(b).

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 USC §1001, and that such willful false statements may jeopardize the validity of the patent application, any patent issuing thereon, or any patent to which this verified statement is directed.

NAME OF PERSON SIGNING: LARS CHRISTENSEN
ADDRESS OF PERSON SIGNING: FREDERIKSBORGVEJ 27, 4000 ROSKILDE

SIGNATURE: DATE: J. J. 2000